

ABSTRACT OF THE DISCLOSURE

A radio-frequency (RF) receiver includes a receiver analog circuitry and a receiver digital circuitry. The receiver analog circuitry resides within a first integrated circuit and the receiver digital circuitry resides within a second integrated circuit. The second integrated circuit couples to the first integrated circuit via a one-bit digital interface. The receiver analog circuitry receives an RF signal and processes the received RF signal to generate a digital signal. The receiver analog circuitry provides the digital signal to the receiver digital circuitry. The receiver digital circuitry includes a digital down-converter circuitry that mixes the digital signal with an intermediate frequency (IF) local oscillator (LO) signal to generate a digital down-converted signal. The receiver digital circuitry also includes a digital filter circuitry that filters the digital down-converted signal to generate a filtered digital signal.